

ABSTRACT

A bonded structure comprising the physical and electrical connections between an integrated circuit element and substrate using a composite bump comprised of a single polymer body of low Young's Modulus and a conductive metal coating. When the bonded structure is formed the composite bump is deformed and the low Young's Modulus of the polymer body allows a very reliable bonded structure with very low bonding force. Due to the low Young's Modulus there is little tendency to separate the connections after the bonded structure is formed. The bond can be formed using thermocompression bonding, ultrasonic bonding, application of heat or application of light. The bond can also be formed using a non conductive adhesive between the integrated circuit element and the substrate. The bond can also be formed with a conductive adhesive coating on the composite bump.